



**The University of Iowa
Heartland Center for Occupational Health & Safety**

**Summary Annual Report
July 1, 2011 - June 30, 2012**

**NIOSH Training Grant
T42OH008491**

Submitted by:

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October 2012

SECTION I

ERC Summary

Since its inception in 2000, the Heartland Center for Occupational Health and Safety (the Center) has served as a resource for Federal Region VII and the US, providing interdisciplinary graduate, postgraduate, and residency training, continuing education and outreach for practitioners and researchers in occupational health and safety (OHS) professions. The major rationale for the Center is to address dual problems in Federal Region VII: higher than US-average rates of occupational disease and injury and shortages of trained OHS professionals. The Center has 7 graduate-level training programs, including agricultural safety and health, ergonomics, industrial hygiene, occupational health nursing, occupational epidemiology, occupational injury prevention, and occupational medicine. The Center's active continuing education and outreach programs reach thousands of practitioners in the Region, utilizing both traditional educational media and methods as well as innovative distance-education technology. For the reporting period (July 1, 2011 to June 30, 2012), our programs have the following numbers of trainees: Agricultural Safety and Health – 5 (4 master's, 1 doctoral); Ergonomics – 8 (6 master's, 2 doctoral); Industrial Hygiene – 15 (10 master's, 5 doctoral); Occupational Epidemiology – 6 (1 master's, 5 doctoral); Occupational Health Nursing – 12 (master's only); Occupational Injury Prevention – 7 (doctoral only); Occupational Medicine Residency – 4 (master's only); and Continuing Education – 1284.

Relevance

The training of over 50 graduate-level students by Center faculty directly influences the number of trained occupational health and safety professionals available to Federal Region VII (Iowa, Kansas, Missouri and Nebraska) and beyond. Annually, we graduate 14 students who obtain jobs in industry, academia, and government agencies. The continuing education provided to more than 1200 professionals in this Region has strengthened their ability to reduce the high regional rates of occupational disease and injury. In addition to substantial financial support by the National Institute for Occupational Safety and Health (NIOSH), the Center fulfills its mission and specific aims with assistance from the University of Iowa Hospitals and Clinics and the Deere Foundation. The Center reaches out to over 13,000 regional businesses involving 411,000 workers through a unique outreach program that provides consultation, continuing education, and current OSH information to increase awareness of occupational health and safety and reduce illness and injury.

Key Personnel

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ERC Web Link

<http://www.public-health.uiowa.edu/heartland/>

SECTION II

The 2011-12 reporting period comprised several noteworthy accomplishments of Center faculty, staff, and trainees:

Industrial Hygiene trainee Lorenzo Cena focused his doctoral work on the development, in collaboration with Dr. Tom Peters, Industrial Hygiene Program Director, of a Nanoparticle Respiratory Deposition (NRD) Sampler. The innovative device selectively collects particles smaller than 300nm in a manner similar to their deposition in the human respiratory system. An immediate application is sampling metal-based nanoparticles in the workplace with the ultimate goal of reducing worker exposure to harmful nanoparticles. A patent on the sampler is pending.

This year the **Occupational Medicine** Residency Program applied for renewal of its accreditation. In May 2012 Program Director Fred Gerr, MD, received notification from the Accreditation Council for Graduate Medical Education (ACGME) of successful reaccreditation for the maximum five-year accreditation period. The notification letter specifically commended the program for “the high rate of ABPM board certification among its graduates.”

Occupational Injury Prevention trainee Cara Hamann conducted innovative, community-based research to study the effectiveness of on-road bicycle infrastructure (such as bike lanes or signage). Integrating research methods from public health,

injury prevention, civil engineering, urban planning, and geography, she found that on-road features are protective, and she plans to share the results with the Iowa counties where she did her research.

Ms. Hamann also made a short video to present her study to the Technology Association of Iowa when she was nominated for its 2011 Dupont Pioneer Women of Innovation Award. Ultimately, she was a finalist in the Academic Innovation and Leadership category. Summing up her work in the video, she says, “City engineers and planners can take the results from this research and use them immediately and that means safer roadways for everyone.”

In a national television interview with NBC investigative correspondent Jeff Rossen (Today, 2/29/12), **Occupational Epidemiology** Training Program Director R. William Field provided information on occupational radon exposure of school teachers (and students). Dr. Field also prepared an article for physicians on “Occupational and Environmental Causes of Lung Cancer” that is scheduled for publication late 2012 in “Clinics in Chest Medicine.” He collaborated on the article with Occupational Medicine Residency Program trainee Dr. Brian Withers.

Dr. Field's focus on physicians led him to another project: producing “Breathing Easier,” a video to educate physicians on the link between radon and lung cancer. Radon is the leading environmental cause of cancer mortality in the US, the number one cause of lung cancer among individuals who have never smoked, and the second leading cause of lung cancer overall. Marketing and distribution of the videos began during FY12, when they were highlighted on the EPA's website (<http://www.epa.gov/radon/>) and used in workshops sponsored by EPA and the National Environmental Health Association (NEHA).

In our continued tracking of their career progress, we identified the following achievements of our **Center graduates**:

- Medical Director for Occupational Health Services, from Occupational Medicine Physician
- Medical Case Manager, from Occupational Health Nurse
- Environmental Health & Safety Manager, from Environmental Health & Safety Representative
- Election to the Board of the American College of Occupational & Environmental Medicine (Young Physician Director position)

Kimberly Gordon, director of Heartland Center **Continuing Education**, attended a meeting of the Northeast Iowa Association of Occupational Health Nurses (NIAOHN) in December 2011, where she heard members express a need for a review of skills related to the physical assessment of workers. Ms. Gordon and **Occupational Health Nursing** Program Director Kerri Rupe then created a three-part distance learning event, “Teaching Thursdays: Physical Assessment Webinar Series.” Starting in February, Dr. Rupe delivered one session per month on neurological, pulmonary, and musculoskeletal assessment. Nearly 200 occupational health nurses from across Federal Region VII and beyond participated in the live sessions or accessed the recordings.

Outreach to Iowa employers and workers was expanded with the addition of a new member to the WORKSAFE IOWA (WSI) Associates Network. During 2011-12, the occupational medicine clinic based at the Grinnell Regional Medical Center (GRMC) compiled information for their membership application, and they were accepted into the WORKSAFE IOWA network. WSI occupational health consultation with the GRMC clinic will support services provided throughout a six-county area of east central Iowa. The clinic's service area comprises a labor force of nearly 11,000 employed workers, in manufacturing, education, healthcare/social services, wholesale and retail trade, and finance/insurance/real estate.

Outreach to the American Academy of Nurse Practitioners (AANP) resulted in occupational health and safety content being added to their continuing education curriculum. In 2012, Dr. Rupe provided four presentations at the AANP national conference, on the Family Medical Leave Act, Work Restrictions for Injured Workers, DOT Physical Requirements Using Federal Motor Carriers Safety Administration Regulations, and Basic DOT Examination Requirements.

Finally, in support of Center administration, the Center's Deputy Director developed and conducted a regional needs assessment survey in the summer and fall of 2011. Dr. Tom Cook targeted two groups: human resources representatives of Region VII employers and Center CE trainees. In the former category, over 117 businesses responded to the survey and expressed a continuing need for trained occupational health and safety professionals to help reduce occupational injury and illness rates in Iowa, Kansas, Nebraska, and Missouri and beyond.